In the Claims

Please cancel claims 1-108 without prejudice and add new claims 109-131 as follows:

109. (New) A lamp comprising:

(a) a waveguide having a body comprising a ceramic dielectric material of a preselected shape and preselected dimensions, the body having a first side determined by a first waveguide outer surface;

(b) a first feed positioned within and in intimate contact with the waveguide body, adapted to couple energy into the body from a source having an output and operating at a preselected frequency and intensity, the feed connected to the source output, said frequency and intensity and said body shape and dimensions selected such that the body resonates in at least one resonant mode having at least one electric field maximum;

(c) an enclosed first cavity depending from said first surface into the waveguide body; and

(d) a first bulb positioned in the cavity at a location corresponding to an electric field maximum during operation, the bulb containing a gas-fill which when receiving energy from the resonating waveguide body forms a light-emitting plasma.

110. (New )The lamp of claim 109, wherein the waveguide has an outer coating of a metallic material.

111. (New) The lamp of claim 109, wherein the bulb comprises an outer wall having an inner surface, and a window covering the cavity.

112. (New) The lamp of claim 111, wherein the window is substantially transparent to the light emitted by the plasma.

113. (New) The lamp of claim 111, wherein the window comprises sapphire.

114. (New) The lamp of claim 111, wherein the inner surface of the bulb outer wall is at least partially reflective of light emitted by the plasma.

115. (New) The lamp of claim 111, wherein the bulb outer wall comprises a dielectric material.

116. (New) The lamp of claim 115, wherein the dielectric material is a ceramic.

117. (New) The lamp of claim 111, wherein the bulb outer wall and window have approximately equal coefficients of thermal expansion.

118. (New) The lamp of claim 111, wherein the bulb outer wall thermally isolates the bulb from the waveguide body.

119. (New) The lamp of claim 109, wherein said ceramic dielectric material has a dielectric constant greater than about 2.

120. (New) The lamp of claim 109, wherein said operating frequency is in a range from about 0.5 to about 10 GHz.

121. (New) The lamp of claim 109, wherein said shape of the waveguide body is a rectangular prism.

122. (New) The lamp of claim 109, wherein the first feed is in intimate contact with the waveguide body.

123. (New) The lamp of claim 109, wherein the gas-fill comprises a noble gas and a metal halide.

124. (New) The lamp of claim 109 wherein the source is intrinsic to the lamp.

125. (New) The lamp of claim 109, wherein the first feed is inserted into the waveguide body through a second waveguide outer surface generally opposed to said first waveguide outer surface.

126. (New) The lamp of claim 109, wherein said shape of the waveguide body is a cylindrical prism.

127. (New) The lamp of claim 109, wherein the first microwave feed is positioned proximate to an electric field maximum

128. (New) The lamp of claim 109, wherein the waveguide body resonates in a mode having at least two electric field maxima, and the first microwave feed and bulb are positioned proximate to different electric field maxima.

129. (New) A method for producing light comprising the steps of:

(a) coupling energy characterized by a frequency and

intensity into a waveguide having a body comprising a ceramic dielectric material of a preselected shape and preselected dimensions, the body having a side determined by an outer waveguide surface and a cavity depending from said surface into the body, said frequency and intensity and said body shape and dimensions selected such that the body resonates in at least one resonant mode having at least one electric field maximum;

(b) directing resonant energy into an envelope determined by the cavity and a window, the envelope containing a gas-fill; and

(c) creating a plasma by interacting the resonant energy with the gas-fill, thereby causing emission of light.

130. (New) The method of claim 129 further comprising the step of directing the light emitted through the window.

131. (New) The method of claim 129, further comprising the step of dissipating heat generated by the plasma through said waveguide outer surface.